



# DC Modular

## protection | distribution

Due to the ever increasing complexity of electrical DC systems onboard of vehicles or in stationary applications, there is a growing need for a uniform set of products that significantly improves the installation time and flexibility. The TBS DC Modular product range offers a perfect solution for this and contains a wide range of high current busbars, fuseholders and interconnection materials. Compared to more traditional and often incompatible DC distribution products, the DC Modular system offers many benefits.



**All DC Modular products are equipped with stainless steel studs, washers and nuts for optimal corrosion resistance.** Tin plated high purity copper busses provide maximum conductivity, reducing heat and improving efficiency. The base material used for the DC Modular products is made from a special, fiber reinforced compound. This material offers excellent high temperature properties, good chemical resistance and high strength.

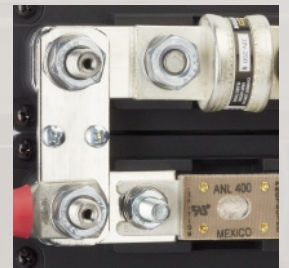
### Highlights

- Unique grid optimized footprints allows space saving arrangements of multiple products
- Use of the highest quality materials for long lifetimes in harsh environments
- Common interconnection heights for easy combining of multiple products using link plates
- Robust transparent covers with breakouts to allow wire access from any direction
- Smart terminal design allows dual mirrored cable lug connections
- Easy in-system fuse and connection access due top locked covers (except Mega 300A and ANL 300A fuseholders)



The optional adapter plate allows a mixture of high- and low power cables to be connected to the same stud.

Multiple fuseholders and busbars can be connected to each other with the optional link plates.



Transparent polycarbonate cover with break-out side skirts at each side, for easy cable entry.



Smart terminal design allows dual mirrored cable lug connections.



# Expert Modular

## Battery monitor

The DC Modular product range is a perfect companion for the TBS Expert Modular battery monitor. This advanced battery monitor not only shows the true state of charge of your battery system. It also offers a large amount of additional features to optimally supervise your battery system and control external equipment. The Expert Modular footprint fits perfectly into the DC Modular grid, allowing optimal integration with busbars and fuse holders.

Unlike the well known TBS Expert Lite and Expert Pro battery monitors which are based on a passive shunt for current measurement, the new Expert Modular solution is equipped with an active shunt module. All measurements and calculations are made inside the active shunt module, resulting in the highest accuracy. The end results are transferred to the Control and Display Unit (CDU) over a digital cable connection, ensuring the highest immunity against external interference even in harsh industrial applications.



**The Expert Modular can monitor up to three battery banks.** The inputs for battery bank 2 and 3 can also be configured for other purposes, like mid-point voltage measurement, keyswitch input, setup lock or backlight control. The Expert Modular battery monitor can measure DC currents up to 600Amps (500Amp continuous) and voltages up to 70Vdc. So any lead- or lithium based battery from 12V up to 48V can be monitored.

**The installation time is minimal,** requiring only one supply wire to the intelligent shunt base and a single plug and play 'QuickLink' cable between the shunt base and the control/display unit (CDU). Furthermore, the battery minus cable must be interrupted in order to insert the shunt into the high current circuit. The fused supply wire and the QuickLink cable are both included in the package, avoiding the need for a separate connection kit.



**Integrating the Expert Modular into the DC Modular grid, greatly improves the wiring flow.** Now you can collect all negative return cables on a busbar, instead of stacking these directly onto the shunt stud. A link plate between the shunt and busbar guarantees a solid and efficient connection. Besides connecting to the CDU, the QuickLink bus ports are also ready to be connected to a wide range of upcoming Expert Modular accessories.



## Product

## Global specifications

### DC Modular high current busbars



The high current busbars are used to distribute DC power over a number of connected cables, or to join these cables all to the same potential. We are offering the following busbar models :

Model	Grid size	Dimensions (W x L x H)	Voltage <sup>1)</sup> / current rating
DCM 3xM8 Bus Bar	1x2	50.0 x 100.0 x 60.5mm	50V / 600A
DCM 3xM10 Bus Bar	1x2	50.0 x 100.0 x 60.5mm	50V / 600A
DCM 5xM8 Bus Bar	1x3	50.0 x 150.0 x 60.5mm	50V / 600A
DCM 5xM10 Bus Bar	1x3	50.0 x 150.0 x 60.5mm	50V / 600A

<sup>1)</sup> Higher voltages require additional safety measures

### DC Modular Single and Dual Studs



Single and dual studs are ideal parts to extend cables, add power taps or form termination end-points. We are offering the following single- and dual stud models :

Model	Grid size	Dimensions (W x L x H)	Voltage <sup>1)</sup> / current rating
DCM 1xM8 Single Stud	1x1	50.0 x 50.0 x 60.5mm	50V / - <sup>2)</sup>
DCM 1xM10 Single Stud	1x1	50.0 x 50.0 x 60.5mm	50V / - <sup>2)</sup>
DCM 2xM8 Dual Stud	1x1.5	50.0 x 75.0 x 60.5mm	50V / - <sup>2)</sup>
DCM 2xM10 Dual Stud	1x1.5	50.0 x 75.0 x 60.5mm	50V / - <sup>2)</sup>

<sup>1)</sup> Higher voltages require additional safety measures

<sup>2)</sup> No current value is given since the single- and dual stud models are not distributing current through the base

### DC Modular fuseholders



A wide range of fuseholders are available, offering solutions for four different fuse types in current ratings from 35A up to 600A. The following models are available :

Model	Grid size	Dimensions (W x L x H)	Voltage <sup>1)</sup> / current rating
DCM Mega Fuseholder	1x1.78 <sup>2)</sup>	50.0 x 89.0 x 53.0mm	50V / 40 .. 300A
DCM ANL Fuseholder (300A)	1x2	50.0 x 100.0 x 53.0mm	50V / 35 .. 300A
DCM ANL Fuseholder (600A)	1x3	50.0 x 150.0 x 60.5mm	50V / 35 .. 600A
DCM Class-T Fuseholder (400A)	1x3	50.0 x 150.0 x 60.5mm	50V / 225 .. 400A
DCM Class-T Fuseholder (600A)	1x3	50.0 x 150.0 x 60.5mm	50V / 450 .. 600A

<sup>1)</sup> Higher voltages require additional safety measures

<sup>2)</sup> The Mega fuseholder is optimized for stand-alone use

### Expert Modular battery monitor



The Expert Modular is an advanced battery information center, showing all relevant electrical battery parameters and allowing control over external equipment. This system contains an intelligent shunt module and a remote control and display unit.

Parameter	Value
Battery voltage range	8 .. 70Vdc (suitable for 12V, 24V and 48V systems)
Battery current range	-600 .. +600A <sup>1)</sup>
Battery capacity range	10 .. 10,000Ah
Parameter indications for	Voltage, Current, Temperature, State of charge, State of health Amphours, Time remaining, Power, historical data and more
Shunt grid size (dimensions)	2x2 (100.0 x 100.0 x 60.5mm)

<sup>1)</sup> -500 .. +500A continuous

### DC Modular accessories



The optional Link Plates allow clean and easy connections between multiple DC Modular or Expert Modular products. The universal Adapter Plate allows a mixture of high- and low power cables to be connected to the same stud.

Model	Description
DCM Link Plate (50mm pitch)	For straight end-to-end and end-to-side connections (M8/M10) (includes 2x M4 connection points for low power cables)
DCM Link Plate (41mm pitch)	For diagonal end-to-side connections (M8/M10) (includes 2x M4 connection points for low power cables)
DCM Adapter Plate	For single M8/M10 stud to 4x M4 fork/ring terminals

All specifications are subject to change without notice